
Atlantic Billfish Fishery Management Plan Amendment

Chapter 7
COMMUNITY PROFILES
FOR ATLANTIC BILLFISH FISHERIES

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7.1 Background

7.1.1 Introduction to the Community Profiles

The Magnuson-Stevens Act requires all fishery management plans (FMPs) to include a fishery impact statement (FIS), which shall assess, specify and describe the likely effects of the measures on fishermen and fishing communities (§303(a)). When establishing regulatory constraints on a fishery, such as those described in Chapter 3 of this FMP amendment, one of the factors that must be taken into account is the cultural and social framework relevant to the fishery and any affected fishing communities (§303(b)(6)).

Similarly, the National Environmental Policy Act (NEPA) requires federal agencies to consider the interactions of natural and human environments by using “a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences . . . in planning and decision-making” (NEPA §102(2)(a)). Federal agencies should address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect, or cumulative. Consideration of social impacts is a growing concern as fisheries experience variable participation and/or declines in stocks.

Social impacts are the consequences to human populations that follow from some type of public or private action. Those consequences may include changes in “the ways in which people live, work or play, relate to one another, organize to meet their needs and generally cope as members of a society. . .” (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994:1). In addition, cultural impacts may involve changes in the values and beliefs that affect people’s way of identifying themselves within their occupation, communities, and society in general. Social impact analyses help determine the consequences of policy action in advance by comparing the *status quo* with the projected impacts. Public hearings and scoping meetings provide input from those concerned with a particular action.

National Standard 8 is part of a set of guidelines intended to improve the decision making process and, along with the other standard guidelines, applies to all Fishery Management Plans and the implementation of regulations. Specifically, National Standard 8 notes that:

Conservation and management measures shall, consistent with the conservation requirements of the [Magnuson-Stevens] Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to: (A) provide for the sustained participation of such communities; and, (B) to the extent practicable, minimize adverse economic impacts on such communities. (§301(a)(8))

“Sustained participation” is defined to mean continued access to the fishery within the constraints of the condition of the resource. It should be clearly noted that NS 8 “does not constitute a basis for allocation of resources to a specific fishing community nor for providing

preferential treatment based on residence in a fishing community.” The Magnuson-Stevens Act further defines a “fishing community” as:

A community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, crew, and United States fish processors that are based in such community (Magnuson-Stevens Act, Section 3).

In addition, the national standard guidelines (May 1, 1998; 63 FR 24211) define a fishing community as:

A social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing, or on directly related fisheries dependent services and industries (for example, boatyards, ice suppliers, tackle shops). “Sustained participation” is defined to mean continued access to the fishery within the constraints of the condition of the resource. (50 CFR § 600.345).

While geographic location is an important component of a fishing community, management measures often have the most identifiable impacts on fishing fleets that use specific gears. In addition, since the Atlantic billfish species in this FMP amendment are highly migratory, fisheries and the people involved may shift among geographic locations to follow the fish. The geographic concentrations of anglers can vary from year to year as the behavior of these migratory fish is somewhat unpredictable. Thus, the relationship between these recreational effort and geographic fishing communities is not always a direct one; it is an important variable for understanding social and cultural impacts. Therefore, the definition of community takes into account both geographic factors and the use recreational nature of the Atlantic billfish fishery in the United States.

The NMFS (1994) guidelines for social impact assessments specify that the following elements are required in the development of FMPs and FMP amendments:

1. Information on distributional impacts, non-quantifiable considerations such as expectations and perceptions of the alternative actions, and the potential impacts of the alternatives on both small economic entities and broader communities (see Chapter 3);
2. Descriptions of the ethnic character, family structure, and community organization of affected communities (see Sections 2.1.4 and 7.2);
3. Descriptions of the demographic characteristics of the fisheries (see Section 2.1.4);
4. Descriptions of important organizations and businesses associated with the fisheries (see Section 7.4); and

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5. Identification of possible mitigating measures to reduce negative impacts of management actions on communities (see Chapter 5).

7.2.2 Methodology

NMFS contracted with Dr. Doug Wilson, from the Ecopolicy Center for Agriculture, Environmental and Resource Issues at Rutgers, the State University of New Jersey, to help develop this information for the HMS FMP and Amendment 1 to the FMP for Atlantic Billfish. Dr. Wilson and his colleagues conducted their studies throughout 1998 and completed their field work in July 1998. This study covered four species groups (tunas, swordfish, sharks and billfish) that have important commercial and recreational fisheries extending along the Atlantic and Gulf coasts from Maine to Texas and in the Caribbean. The study investigated the social and cultural characteristics of fishing communities in five states and one U.S. territory: Massachusetts, New Jersey, North Carolina, Florida, Louisiana, and Puerto Rico. These areas were selected because they each had important fishing communities that could be affected by the HMS FMP and Atlantic Billfish FMP Amendment, and because they are fairly evenly spread along the Atlantic and Gulf coasts and the Caribbean. For each state or territory, a profile of basic sociological information was compiled, with at least two coastal communities visited for further analysis. Towns were selected based on HMS landings data, the relationship between the geographic communities and the fishing fleets, and the existence of other community studies. Finally, the Advisory Panels for HMS and Billfish provided input on which locations should be included in this analysis.

Researchers from Rutgers conducted more than a hundred key informant interviews throughout these communities, with fishermen, fishing crew, processors, dealers, leaders of fishing organizations, and suppliers. Key informant interviews were guided discussions in which the interviewer moved the interview from topic to topic. The interviewer asked many specific questions as issues arose, but also tried to allow the respondent to shape the terms in which the issues were framed. This line of questioning helped to reveal not just the respondent's perceptions of what is happening, but the meaning which the respondent attaches to these perceptions. Constraints on time and money precluded a more complex statistical design, but even the most complete research design would have used the same types of interviews.

Qualitative interviews such as these are valuable in determining people's perceptions, but are less precise than formal quantitative surveys. Evaluating the accuracy of the responses is done by what social scientists call "triangulation." If several people respond differently to the same issue, the researchers then either do not report anything, or report that people disagree. If several people who are all in the same fishing sector make a similar statement, especially when the interviewer does nothing to lead the statement with a question, then researchers consider this an accurate reflection of how that part of the industry sees the issue. If there is confirmation from someone who does not share that group's economic interest in the fishery, that provides additional evidence of what is going on in the community. Results are further confirmed when researchers hear a similar response in community after community from people in different parts of the industry. All of these interviews took place under Rutgers University rules for human

subjects research. Since responses are confidential, no person or business is identified or quoted by name.

Based on proposed changes to the regulations, researchers identified three categories of potential impacts on fishing operations. First, fishing regulations can affect the *volume* of money that is going through the community. In commercial operations this is a function of the amount and price of fish. In recreational operations this is a function of the amount people are willing to pay for a fishing experience and the number of trips taken. Second, regulations can affect the *flexibility* of fishing operations. This is the ability of the operation to change in response to changes in the resource, the market, or their customer base. Regulations may create uncertainties that affect the ability of fishing operations to make business plans. This often has more to do with how the regulation is administered than the regulation itself. Finally, regulations can impose *direct costs* on fishing operations by requiring them to buy something or to pay someone to do something.

Researchers used these three categories to organize the proposed alternatives into manageable units. Quotas, size limits, and bycatch limits are considered under “Volume” impacts, although the report differentiates between the quotas themselves and the derby-style effects of quota systems. Time and area closures, controls on soak time, prohibitions, and other gear restrictions are considered under “Flexibility.” Vessel Monitoring Systems (VMS), permits, reporting, and industry-financed observers are considered under “Direct Costs.” These impacts on operations, in turn, create impacts in the broader community. Impacts on employment and overall wealth are important, as are changes in a community's identity as a fishing community, and its perspective on the future of fishing-related activities. Social relationships such as the role of kinship and the aggressiveness of competition also affect the quality of life in the community.

The magnitude and importance of any impact is also a function of the characteristics of the fishing community. One community characteristic is the existence of alternative activities, both fishing and non-fishing. The more alternatives available to someone who must change their behavior because of a regulation, the better that person is able to deal with the change. The second community characteristic is economic vulnerability. This describes the amount and sources of pressure and competition those in fishing-related businesses face in getting the things they need to run profitable operations. The more vulnerable the fishing-related operation is, the greater the impact of a regulation on the lives of the people connected to that operation. The third characteristic is community support. Communities differ in the degree to which social capital, i.e., networks of people able to provide financial or emotional assistance, is available to people and fishing operations. The more community support, the better the communities can absorb any adverse impacts of fishing regulations. Information included in the report summarizes the views and opinions of the individuals and groups surveyed, and must be evaluated in terms of the survey design and sample size relative to the operational scope of Atlantic billfish and HMS fisheries.

7.2 Billfish Community Profiles

Atlantic billfish are a unique fishery resource in the United States. The 1988 FMP prohibited the possession, retention and sale of any Atlantic billfish within the U.S. EEZ, thereby reserving billfish strictly for recreational anglers. Atlantic billfish communities consist of several components, including charterboats, private anglers, and local support businesses (e.g., tackle and bait). Tournaments (club, rodeo, or high profile, Section 2.1.3.2) are also a component of the community, with events drawing a large number of participants from many areas of the United States and foreign countries. Atlantic billfish tournaments generally are held once a year in a particular location, lasting anywhere from a weekend to an entire fishing season. High-profile Atlantic billfish tournaments provide positive economic benefits to the area in which they are held. Tournament participants, as well as tourists that are attracted to the event utilize local hotels, restaurants, tackle, marinas, and other retail businesses. Tournaments also commonly support local charities.

The following section provides profiles of towns that contain billfish communities. This narrative does not provide an exhaustive listing of every Atlantic billfish community in the United States, rather the objective is to give a broad perspective on representative areas. In the locations described by the Rutgers University study, researchers found recreational billfish fishing to play an important role in Venice LA, Panama City FL, Madeira Beach, FL, Islamorada, FL, Pompano Beach, FL, Arecibo, PR, and Hatteras, NC. Participants in Atlantic billfish fisheries often are members of local, national and/or international fishing organizations (Section 7.4). There is no mechanism currently available to quantitatively describe the number of billfish anglers, tournaments, private vessels or charterboats, and associated support business of a particular Atlantic billfish community. Although an attempt was made to provide estimates where possible, many of the discussions are, by necessity, qualitative in nature. The final FMP amendment includes actions that will improve the monitoring, permitting and reporting for the Atlantic billfish fishery.

The adventure of fishing for billfish attracts fishermen and their families to these locations. An expensive fishery with expensive gears, the recreational angling for billfish often attracts wealthier customers than inshore fisheries (Section 2.1.4). Researchers noted that billfish tournaments were important, not just as revenue generators for both business and charity, but as community social events. In general, recreational fishermen are very passionate about, and committed to, billfish fishing. Researchers noted that there are no alternative fisheries that can play the same role that billfish plays in the recreational community (Wilson *et al*, 1998).

According to the study, the dependence of these communities on billfish is related in a complex way to the number of billfish available to be caught. The few billfish anglers awarded prizes at a tournament can be indirectly worth hundreds of thousands of dollars to the community. Study researchers stress the importance of the *expectation* in the customer's mind that there is a chance of catching a fish. In the case of marlins, the possibility of catching the fish is so attractive that customers will buy the fishing experience with a comparatively low expectation of catching the fish. However, having more fish available to the community is likely better than fewer fish, especially since the community is competing with other billfish fishing destinations for customers. The study does explain however, that a community may continue to

benefit from the fishery, despite a relatively small billfish stock size. The recreational fishing sectors in the targeted communities are large and tournaments and other community events create a community feeling among participants. Except for Hatteras, none of these ports are integrated fishing communities where the commercial and recreational components see themselves as part of the same social network. In Florida and Louisiana the recreational and commercial groups tend to be hostile to one another and interact rarely (Wilson *et al.*, 1998).

The draft FMP amendment management measures were used by the researchers in their studies of community impacts. The results of the community surveys were utilized in the development of final Atlantic billfish FMP amendment. Final actions were selected by considering regulations that could be employed to minimize economic impact, while maintaining the desired management impacts. The overarching goal of the FMP amendment is to rebuild overfished billfish stocks and improve monitoring of the fishery, within the constraints of the Magnuson-Stevens Act and ATCA. Therefore, many of the preferred alternatives of the FMP amendment that potentially could have had negative economic repercussions have been removed, including: recreational retention (bag) limits and the provision to adjust to a zero retention (replaced with control of landings through minimum size limits), mandatory observers (replaced with a voluntary program); and prohibition on multiple-hook lures and baits. NMFS replaced these rejected options with an outreach program that will include a discussion of gear and fishing techniques to reduce post-release mortality levels. Recovery of the stock would have the important positive impact of allowing U.S. billfishing destinations to compete with foreign billfishing destinations. The impacts of each of the final actions, as applicable, will be discussed as part of the evaluation the Atlantic billfish community in each location.

The following community descriptions are organized by State. As noted above, much of the information in this assessment is attributed to the research findings of Wilson *et al.* Several other Chapters in this FMP include information that is an integral part of this social impact assessment. Please refer to the Description of the Fisheries in Chapter 2, as well as the Regulatory Impact Review (RIR) and the Final Regulatory Flexibility Analysis (FRFA) in Chapter 5. In addition, each of the management alternatives in Chapter 3 includes an assessment of the potential social and economic impacts associated with each alternative. NMFS has conducted these analyses and selected the final alternatives in order to minimize economic impacts and provide for the sustained participation of fishing communities, while taking the necessary actions to rebuild overfished fisheries as required by the Magnuson-Stevens Act. Consistent with NS 8, this Chapter first identifies and describes Atlantic billfish fishing communities (both on the basis of geographic location and gear-type of the fisheries) and then provides a qualitative assessment of their differing nature and the potential socio-cultural impacts of the final actions in this FMP amendment.

7.2.1. Florida Community Profiles

7.2.1.1 Florida State Profile

Demographic and Economic Characteristics (U.S. Bureau of the Census, 1990)

Population: 12,937,926.

Education: 74 percent of residents 25 years and older graduated from high school.

Employment: 5.8 percent of the civilian labor force is unemployed. The main source of employment is the *retail* industry sector (20 percent of the population). *Agriculture, forestry, and fisheries* industries employ approximately 3 percent of the working residents of Florida.

Per capita income: \$14,698.

The Saltwater Recreational Fishery

In 1996, expenditures by saltwater anglers in Florida totaled over \$2.2 billion, accounting for nearly 26 percent of the total U.S. expenditures by saltwater anglers. Saltwater fishing in Florida had an economic output of over \$4.1 billion (more than 16 percent of the U.S. total), generated wages and salaries of nearly \$1.2 billion and created more than 56,000 jobs (ASA, 1997).

Major East Florida HMS and Billfish Communities

Communities along the east coast of Florida likely be affected by the Atlantic billfish FMP amendment are found in: Cape Canaveral, Dania, Daytona Beach, Fort Lauderdale, Fort Pierce, Islamorada, Jacksonville, Key West, Lighthouse Point, Marathon, Miami, New Smyrna Beach, Pompano Beach, Port Orange, and St. Augustine.

Major West Florida HMS and Billfish Communities

Communities along the west coast of Florida likely to be affected by the Atlantic billfish FMP amendment are found in: Apalachicola, Clearwater, Destin, Fort Myers, Fort Walton Beach, Gulf Breeze, Madeira Beach, Panama City, Pensacola, St. Petersburg, Tampa, and Tarpon Springs.

7.2.1.2 Florida Community Profiles - Islamorada, Florida Keys

Islamorada is referred to by its residents as the “Sportfishing Capital of the World.” The name was adopted in the 1950s by this small community because of the simultaneous proximity to the Florida Bay, the Everglades, bonefish flats, coral mountains and the Gulf Stream. Islamorada is famous for light tackle technique, as well as for the offshore fisheries.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 1,293.

Racial and Ethnic Composition: 95 percent Caucasian, 0.9 percent African-American, and 3.8 percent other races. The highest incidence of a single ethnicity is found in residents with German ancestry, which make up 15 percent of the population.

Age Structure: 44 percent aged 15-44; approximately one-third of the population is under 15 and one-third is over 44.

Marriage: 59 percent married; 17 percent never-married; and 17 percent are divorced.

Household Composition: Nearly 44 percent are married-couple families, with 48 percent non-family households.

Education Trends: Approximately 23 percent do not have a high school education, 20 percent have a high school diploma, 30 percent have some college, and 22 percent have a college degree or higher.

Fishing Organizations: Community members belong to TBF, CCA; a prominent local fishing organization in the area is the Matecumbe Anglers Club.

Economic Characteristics

The unemployment rate is 1.2 percent of the labor force; the state average is 5.8 percent. Of the residents 16 years and older, approximately 73 percent participate in the civilian labor force. The predominant occupations by employment are technical and administrative occupations (31 percent) and managerial and professional occupations (26 percent). The five most dominant industries in terms of employment are retail trade (39.4 percent), personal services (12.5 percent), professional and related services (8.0 percent), transportation (7.2 percent), and agriculture, forestry, and fisheries (6.8 percent).

There are a total of eleven marinas in Islamorada. Other water-related tourist businesses include powerboat rentals, boat tours, cruises, kayak, wave runner and sailboat rentals, snorkel and dive shops, boat dockage, lifts and repair shops, and fishing supply shops. There are 26 lodgings in Islamorada, consisting of motels, bed and breakfast, resorts, hotels and inns, ranging from budget to luxury (Islamorada Chamber of Commerce).

Fisheries Profile

Recreational activities in the Florida Keys, including Islamorada, consist of trophy fishing, catch and release, spear fishing, and fishing for food. The traditional past times for the area are reef, shore, and bridge fishing. The recreational fishing industry is increasing. More recently, there has been a growing interest in the guided fishing industry that promotes catch and release (Bohnsack and co-worker, 1994). According to the Florida Bureau of Vessel Titling and Registration, Monroe County has a total of 23,079 registered boats, with 18,731 pleasure and 4,260 commercial boats as of 1996. Respondents reported that fishing for billfish is nearly entirely catch and release. They feel that catch and release, bag and size limits, and other recreational measures are working. They are concerned with other commercial fishing activities, particularly drift gill nets and longlining for dolphin (mahi mahi). According to the Monroe County Cooperative Extension Service, fishing is better as a result of regulations. However, some charterboat captains are pessimistic about the future. They feel that the overall fishing

picture is not good, and say that they have lost customers because there are not as many fish to target (Wilson *et al.*, 1998).

The largest resort in Islamorada began as a fishing marina, with sportfishing a big part of their marketing. The resort has two sets of boats offshore and "back country," the local term for the Florida Bay area. There are 19, "6 pack boats" which are charterboats and 1 party boat. The resort arranges pickup charters. Boats that go offshore do fish for marlin, but this is not a big fishery nor do people regularly want to catch them. Charterboat captains report that marlin were never a big catch. In the winter they fish for sailfish, blackfin tuna, and bonito; they fish for dolphin in May.

Tournaments are an important marketing device. During tournaments resort occupancy rates are very high. The majority of boats in Islamorada tournaments are Florida boats, but there are some out of state participants. Some of the tournaments generate donations to charity. The Holiday Isle Dolphin Tournament, for example, gave \$2500 this year to the American Cancer Society. The Tourist Development Council is a Florida Keys-wide organization that is supported by a bed tax. They have a large marketing budget and they give grants and sponsorship to tournaments.

Community Impacts of the Atlantic Billfish FMP Amendment

The components of the Atlantic billfish community in the town of Islamorada, Florida, including the charterboat fishery, private resident anglers, local support industries (e.g., tackle and bait suppliers), and tournaments, were evaluated to determine anticipated impacts related to the Atlantic billfish FMP amendment. The requirement for all Charter/Headboat vessels fishing for Atlantic billfish and HMS to obtain a permit and submit logbooks will have an economic impact on those fishermen who do not already have a Charter/Headboat permit for tunas. The owner will be charged a fee for the vessel permit (probably \$20 to \$40) to cover administrative costs. The charterboat captain will have to take the time to fill out the logbook. However, many captains who already keep logbooks on a voluntary basis commented that faxing their report to NMFS is a small burden that is well worth the benefits of supporting more effective management. The voluntary observer program should not have an impact on the community. Mandatory tournament registration for Atlantic billfish also should not have an impact. The FMP amendment also includes several possession restrictions, including: an increase in size limits for Atlantic blue and white marlin, and west Atlantic sailfish; status quo on commercial possession, retention and sale; prohibition on retaining longbill spearfish; and allowing the use of dehooking devices. It is not anticipated that any of these measures will have any social impacts on the Islamorada recreational Atlantic billfish fishery. Expansion of the management unit for Atlantic blue and white marlin to the entire Atlantic Ocean, and extending management authority under both the Magnuson-Stevens Act and ATCA, may impact recreational and commercial vessels and fishermen operating outside the U.S. EEZ; however, it is not expected that the Islamorada community, as defined in Section 7.1, would be directly impacted by this action. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic

impacts on billfish communities like Islamorada and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.1.3 Florida Community Profile - Pompano Beach

Pompano Beach is small city directly adjacent to Ft. Lauderdale. The Ft. Lauderdale area is known as the “Yachting Capital of the World” and the “Venice of America” because of the vast canal system which extends throughout Broward County and creates 165 miles of waterfront in the region. Pompano Beach is also a globally important manufacturing center for commercial longlining equipment.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 72,411. Estimates for 1993 and 1996 are 74,876, and 74,583 residents, respectively.

Racial and Ethnic Composition: 70 percent Caucasian, 29 percent African-American, and less than 1 percent other races. The highest ethnic group of a single ancestry is Hispanic, which comprises approximately 20 percent of the population.

Age Structure: 40 percent aged 15-44; 45 percent over age 44; 15 percent under age 15.

Marriage: 53 percent married; 25 percent never-married; 11 percent widowed; and 11 percent divorced.

Household Composition: 31,891 households; average of 2.2 persons per household.

Education Trends: 73.7 percent of the population 25 years and older are high school graduates.

Fishing Organizations: Memberships in the billfish community include TBF and CCA.

Economic Characteristics

____ The per capita income for Pompano Beach in 1989 was \$17,382; this is lower than the per capita income for Islamorada (\$24,651), but higher than the state average of \$14,698.

Unemployment rate for Pompano Beach is 6.3 percent of the civilian labor force; state average is 5.8 percent. Of the residents 16 years and older, nearly 56 percent participate in the civilian labor force. Of the 15 main industries in Pompano Beach, the five most dominant in terms of employment are: professional and related services (19.8 percent), retail trade (18.6 percent), construction (10.4 percent), finance, insurance, and real estate (9.3 percent), and business and repair services (6.5 percent). Agriculture, forestry, and fisheries industries employed 3 percent of the population.

Fisheries Profile

Recreational fishing is a very important activity in Pompano Beach. According to Florida’s Bureau of Vessel Titling and Registry, in 1996-97 Broward County had 44,151 registered boats, with 41,393 pleasure and 2,043 commercial boats. In contrast to many Florida communities, a

substantial amount of the recreational industry is supported by local people in addition to tourists; a large number of small, local fishing tournaments attract about 75 percent local people and 25 percent tourists. Tournaments play an important role in attracting tourists and generate money for charity, e.g., the 1998 Pompano Beach Ladies Tournament raised \$33,500 for charity. Many of these tournaments target sailfish, which are very important for promoting tourism in the Pompano Beach area. Local activities also include an Annual Sea Food Festival in April, and an annual Rodeo tournament. The Rodeo started in 1965 to encourage tourists to stay in the area longer. Today the Rodeo is known internationally and the non-profit activity supports marine conservation and educational programs. It has grown since 1966 when there were 79 anglers on 47 boats that entered the tournament. By 1994 there were 667 anglers on 261 boats establishing a tournament industry standard. There were 95 winners that year with more than \$60,000 given out among them (Hardie 1995). In 1996, the Rodeo increased to 722 angler entries (221 boats). While most tournaments are non-profit, there have been several attempts to set up for-profit tournaments.

Catch and release of billfish is actively promoted among recreational fishermen by such organizations as The Billfish Foundation and the International Game Fish Association, where it has been policy for 15 years. Several respondents reported that people have begun to accept catch and release as normal practice even in tournaments.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in Pompano Beach, Florida related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Pompano Beach and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.1.4 Florida Community Profiles - Madeira Beach

Madeira Beach is part of the Tampa Bay urban complex, one of several beach suburbs of St. Petersburg. It is a highly developed urban area in a county where tourism is the number one industry.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 4,225; population estimates for 1993 and 1996 are 4,319 and 4,383.

Racial and Ethnic Composition: 99.8 percent Caucasian. The highest group of single ancestry in the ethnic composition of Madeira Beach consists of people of German ancestry (11 percent).

Age Structure: 39 percent aged 15-44; 7 percent under age 15; 54 percent over age 44.

Marriage: 55 percent married; 20 percent never-married; 12 percent widowed; and 13 percent divorced.

Household Composition: 2,230 households; average of 1.88 persons per household.

Education Trends: Nearly 84 percent of residents 25 years and older graduated high school.

Fishing Organizations: Madeira Beach Atlantic billfish recreational anglers are members of TBF and CCA.

Economic Characteristics

The per capita income (1989) for Madeira Beach was \$17,301, which is considerably higher than the per capita income for Panama City (\$12,169), and the State of Florida average (\$14,698). Unemployment rate is 2.8 percent of the civilian labor force; state average 5.8 percent. Of the residents 16 years and older, nearly 59 percent participate in the work force. Managerial and professional occupations rank the highest in employment (35 percent), followed by technical and administrative occupations with (31 percent). Approximately 78 percent of those employed are private for profit wage and salary workers; 8 percent are self employed. The five most dominant industries in terms of employment are retail trade (30.7 percent of employees 16 years and older), professional and related services (20.9 percent), and construction (8.8 percent). Agriculture, forestry, and fisheries industries make up a very small sector of the industry in Madeira Beach (1.4 percent).

In terms of revenue, tourism is the number one industry in Pinellas County. Annually, four million visitors contribute about \$2 billion dollars to the economy. The tourism industry also employs almost 60,000 of the residents either directly or indirectly, adding up to \$720 million in wages (St. Petersburg/Clearwater Visitors Bureau brochure, 1998).

Fisheries Profile

Participants in recreational fishing for billfish in Madeira Beach are dedicated and prosperous recreational fishermen. Marlins are the most important species to this group and, because these fish are 100 miles offshore, fishing is very expensive. Approximately 50-60 private boats participate, a small subgroup of the 48,285 pleasure boats registered in Pinellas county, according to the 1996-97 Florida Bureau of Vessel Titling and Registration. Billfish have never been important for Madeira Beach charterboats because the resource is far offshore, making it is expensive and logistically difficult to successfully operate billfish charters from this area (Wilson *et al.*, 1998). One tackle store owner reports that he sells about \$100,000 a year in billfish equipment and that billfish tackle is highly seasonal (April-September).

Billfish tournaments are staged out of John's Pass in Madeira Beach and the Tierra Verde Resort, in St Petersburg. Four tournaments target billfish. In 1997, one tournament had 80 participating boats that released 42 billfish. Billfish tournaments attract tourists, and most of them are sponsored by a boat or engine manufacturer, and the grand prize is often a boat. One company recently doubled their budget for tournament sponsorship because they saw it as one of their most important marketing channels. Many tournaments also produce funds for charity.

The question of catch and release billfish tournaments is a divisive one in the Madeira Beach recreational fishing community (Wilson *et al.*, 1998). Area tournaments held include full release tournaments and kill tournaments. The full release tournaments use colored lines that are

attached to the fish and a photograph or video is taken. Points are given for each legal-sized fish released. The Billfish Foundation tournaments and the Florida West Coast Billfish championship are catch and release. When the Madeira Beach tournaments became full release, a number of captains dropped out. They were afraid of "unsportsman-like behavior." They want to bring fish to the dock so that no questions are asked (Wilson *et al.*, 1998).

The recreational and commercial fishing communities in Madeira Beach have a tense relationship with one another. Recreational fishermen recognize that the area was partially built on commercial fishing, but believe that the commercial industry has depleted the resource (Wilson *et al.*, 1998). There are mixed attitudes towards imposing more recreational permits. Some would like to know where the money will go, while others are willing to do whatever it takes to preserve the stock.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in Madeira Beach, Florida related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Madeira Beach and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.1.5 Florida Community Profiles - Panama City

Panama City is a summer tourist destination on the Gulf of Mexico in the Florida Panhandle. It is a small city that serves as a regional center. Fishing and golf are the two activities that attract the most tourists. The city is also an important commercial fishing port.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 34,378; population estimates for 1993 and 1996 are 35,650 and 35,986 residents, respectively.

Racial and Ethnic Composition: 76 percent Caucasian; 21 percent African-American. The highest occurrence of a single ancestry group is those of Hispanic origin (25 percent).

Age Structure: 43 percent aged 15-44; 37 percent above age 44; 20 percent under age 15.

Marriage: 55 percent married; 23 percent never-married; 12 percent divorced; and 10 percent widowed. Of those widowed, 15 percent were male and 85 percent were female.

Household Composition: 14,033 households; average of 2.38 persons per household.

Educational Trends: Approximately 70 percent of the population 25 years and older graduated from high school.

Fishing Organizations: Memberships include TBF and CCA.

Economic Characteristics

The per capita income in the Panama City area was \$12,169 in 1989, which is considerably lower than the per capita income of Madeira Beach (\$17,301) and the state average \$14,698. Unemployment rate is 8.1 percent of the civilian labor force; state average is 5.8 percent. Approximately 57 percent of the population 16 years and older participates in the civilian labor force. Technical and administrative occupations rank the highest (32 percent) of occupations of people 16 years and older, followed by managerial and professional sector (26 percent). The five dominant employment industries in Panama City are professional and related services (25.2 percent), retail trade (21.4 percent), public administration (7.9 percent), and construction (7.0 percent). Nearly 8 percent of those employed work in the manufacturing industry (durable and nondurable goods). Agriculture, forestry and fisheries industries rank as one of the smallest sectors in Panama City (1.5 percent employed in this sector).

Fisheries Profile

Panama City rates as one of the Florida Panhandle's top fishing centers. It offers surf fishing, pier fishing, and charter and party boat fishing, according to the Panama City Tour Guide. According to the Florida Bureau of Vessel Titling and Registration, Bay County has a total of 16,865 registered boats with 15,359 pleasure and 1,433 commercial boats. Panama City is a summer resort with little tourist activity in the winter. In winter, fishermen target bottom fish and bluefish, which are around all year. In March, the season begins for Spanish mackerel, cobia, snapper, bonita, little tunny, amberjack, can snapper, red porgies, rudder fish, blue runner, bluefish, and redfish. By summer they also have king mackerel, dolphin, wahoo, little tunny, and barracuda. White and blue white marlin and sailfish are caught in late summer. In September, the fishery is very mixed, and in October, king mackerel and bonito are popular. Tourists come mainly to go bottom fishing. Motivations have changed; people used to be interested in catching a lot of fish and taking it home to eat or sell, but now people are satisfied to catch anything.

Marlin fishing is expensive and occurs at least 50 miles offshore. Most charters occur from July to September. The catch-and-release of billfish is prevalent, except in tournaments where a limited number of billfish are landed (Wilson *et al.*, 1998). Some charterboats will go shark fishing at night for extra income. Party boats are an important part of Panama City's tourism. People enjoy these trips because they feel they can bring children along since these trips are shorter than charterboat trips. A tackle store owner related that about 15 percent of his business is related to billfish fishing.

Tournaments are the center of the Panama City recreational fishing community and have a large economic impact. There is a very large billfish tournament in July. Other important tournaments are a king mackerel tournament and a smaller blue marlin tournament in September. The organizer of the large tournament estimates that participants spend at several thousand dollars each over the weekend of the tournament (Wilson *et al.*, 1998). The marina sells 40,000 gallons of diesel fuel in 4 days, 275 40lb bags of ice, and \$25,000 in t-shirts. The tournament draws approximately 10,000 spectators. The prizes are \$100,000 for first place, \$50,000 for second place, and \$40,000 for third place. Panama City tournaments also generate substantial contributions for charity. The catch and release idea has been growing although not as quickly as

in other parts of Florida. In the 1970s, one three-day tournament in Panama City killed 146 marlin. Today, charterboats make a habit of releasing the fish. In recent years, their tournament has never killed more than six blue marlin.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in Panama City, Florida related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Panama City and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.2 Louisiana Community Profiles

7.2.2.1 Louisiana State Profile

Demographic and Economic Characteristics (U.S. Bureau of the Census, 1990)

Population: 4,219,973.

Education: 68 percent of residents 25 years and older graduated from high school.

Employment: 9.6 percent of the civilian labor force is unemployed. Main sources of employment include *retail* (17 percent of working residents), *health services* (9 percent), and *educational services* (10 percent); *agriculture, forestry, and fisheries* industries employ nearly 3 percent of the working residents of Louisiana.

Per capita income (1989): \$10,635.

The Saltwater Recreational Fishery

Expenditures by saltwater anglers were approximately \$205 million, accounting for nearly 2.5 percent of the total U.S. expenditures by saltwater anglers. Saltwater fishing in Louisiana incurred expenditures of nearly \$395 million (about 1.6 percent of the U.S. total), generated wages and salaries of \$105 million, and created approximately 5,600 jobs (ASA, 1997).

Major Louisiana HMS and Billfish Communities

The communities in Louisiana likely to be affected by the Atlantic billfish FMP amendment are found in: Cameron, Cut Off, Dulac, Grand Isle, Houma, Larose, Leeville, New Orleans, Port Fourchon, and Venice. Demographic data for two communities in Louisiana were not readily available - Leeville and Port Fourchon, both of which are located in LaFourche Parish.

7.2.2.2 Louisiana Community Profiles - Venice

Venice lies at the southern most tip of Louisiana, at the end of state highway 23 which is flanked for miles by levees that border the Mississippi River and eroding wetlands on either side. Most fishery participants are nonresidents. Pelagic longliners who sustain the commercial tuna industry in Venice are Vietnamese and live in New Orleans or a suburb of the city. Louisiana natives who fish for shark with nets in state waters live outside of Venice in neighboring towns. Shrimp is the largest commercial catch bought and sold in Venice. However, a couple of docks draw 40 percent of their business from longline. The swamp land of Venice juts further into the Gulf of Mexico than Dulac and is closer to billfish areas that recreational fishermen frequent. Recreational fishing increased steadily there in the last seven or eight years.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 2,743 in Boothville-Venice.

Racial and Ethnic Composition: 66 percent Caucasian; 28 percent African-American. The categories American Indian, Eskimo or Aleut and Hispanic made up two percent each. Only 18 residents were Vietnamese, despite the fact that most of the longline captains and dock owners who sustain the Venice commercial industry for tuna, swordfish, and shark are Vietnamese. Thirty-three percent of people who reported their ancestry said they were French or French Canadian. All of the four docks that purchase those species in Venice are Vietnamese owned.

Age Structure: Nearly 58 percent of the population was 18 to 64 years old; 25 percent aged 5-17; 11 percent under age 5; about 6 percent above age 65.

Household Composition: 844 households; average of 3.25 people living in each. Approximately 15 percent of the population lived in a one-person household.

Educational Trends: Only 43.5 percent of the population 25 years and older graduated from high school. Nearly 30 percent of the population over 25 years old did not complete the ninth grade.

Fishing Organizations: Memberships include TBF and CCA.

Economic Characteristic

The per capita income of Venice was \$6,949 in 1989, which was higher than the per capita income of Dulac (\$4,946), but below the state average (\$10,635). A total of 36 percent of the population live below the poverty level. The median household income was \$16,250. Eighteen percent of the households received Social Security, averaging \$5,433 a year, and 11 percent of the households received public assistance income, averaging \$3,301 a year.

Only half the Venice population age 16 and older was considered to be in the labor force. Of those, 6.4 percent were unemployed. Compared to Dulac in 1990, this unemployment rate is extremely low, perhaps because Venice has been the epicenter of oil industry activity in Louisiana, or perhaps because local commercial fishing has served residents well during fluctuations in the oil industry. The major industries that offer job opportunities in Venice are oil, seafood and, increasingly, recreational fishing.

About 17 percent of the employed residents worked in precision production craft and repair occupations. Firms of the category transportation and material moving employed 14 percent, and farming fishing and forestry employed 12 percent. Retail was the largest industry category that employed Venice residents in 1990 with 16 percent of the employed residents falling into that category. Agriculture, forestry, fisheries and transportation employed 14.5 percent of employed residents. Docks in Venice seasonally employed between five and 15 Mexican migrant laborers for unloading boats and packing seafood. Docks employed between five and 8 people year round.

Fisheries Profile

Venice was a small community, but an important finfish port in Louisiana, until the 1995 state gillnet ban. There was an influx of Vietnamese shrimpers who tended not to live in the area. Some Vietnamese who purchased existing docks or established new ones in the last 10 years. By the late 1980s, shrimp had become a less lucrative fishery. At the same time, the

domestic fresh fish market developed and prices for yellowfin tuna rose. Vietnamese and American fishermen re-rigged their boats from shrimping to longlining for tuna, at an estimated cost of \$1,000 per mile of line; most outfitted their boats with 20 to 40 miles of line. The oil industry was also in decline and locals saw some oil boats rig up for long lining. After a boom and bust cycle, prices plummeted from \$6 to \$7 per pound for grade one yellowfin tuna to \$3 to \$2.50 per pound for grade one yellowfin. Some boats went back to shrimping, while some Vietnamese longliners left for the west coast. Virtually all longline vessels in the area are now owned by members of the Vietnamese community.

Recreational fishermen launch from Venice year round, but are affected by winter weather. The larger boats can fish yellowfin tuna year round, in addition to inshore species like redfish, snapper and speckled trout. They fish for billfish, particularly blue marlin, from May to October or November. There is some animosity between recreational and commercial fishermen which seems born of competition for particular species. There are only two marinas in Venice that cater to recreational fishermen. One opened 13 years ago and offers boat slips, launches, a hoist, a couple of condominiums, baitshop, fuel and ice. It employs 13 people during peak summer months. Most of the marina's business comes from private boats from New Orleans and border states. Less than one percent of this marina's business consists of charterboats. The other marina opened only a few years ago, offering 120 pre-paid boat slips, a 64-room two story hotel, condominiums, a dry dock storage facility, fuel and ice. It employs 12-15 people in its newly opened hotel and another 15-25 in the marina. Eight charterboats operate from the marina, and there is room for 10 more.

Industry participants say the catch and release ethic for billfish is strong in Venice among recreational fishermen, but billfish tournaments in the area require that trophy fish be brought to the dock and weighed. Sport fishermen prefer to catch and keep tuna, dolphin, and wahoo for the meat (Wilson *et al.*, 1998). Some respondents suggest a certificate program for the tag and release of fish.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in Venice, Louisiana related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. One possible exception is most offshore charterboats in this community probably have a tuna permit because yellowfin tuna is a commonly targeted species for anglers in the Venice area. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Venice and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.3 North Carolina Community Profiles

7.2.3.1 North Carolina State Profile

Demographic and Economic Characteristics (U.S. Bureau of the Census, 1990)

Population: 6,628,637.

Education: 70 percent of residents 25 years and older graduated high school.

Employment: 4.8 percent of the civilian labor force is unemployed. Main sources of employment include *retail* (16 percent of working residents) and *manufacturing of durable and nondurable goods*. *Agriculture, forestry, and fisheries* industries employ nearly 3 percent of the working residents of North Carolina.

Per capita income (1989): \$12,885.

The Saltwater Recreational Fishery

Expenditures by saltwater anglers were approximately \$673 million, accounting for nearly 8 percent of the total U.S. expenditures by saltwater anglers. Saltwater fishing in North Carolina incurred expenditures of nearly \$1.3 billion (about five percent of the U.S. total), generated wages and salaries of approximately \$357 million and created over 19,000 jobs (ASA, 1997).

Major North Carolina HMS and Billfish Communities

Communities in North Carolina likely to be affected by the Atlantic billfish FMP amendment are located in: Atlantic Beach, Beaufort, Harkers Island, Hatteras, Manns Harbor, Manteo, Morehead City, Nags Head, Oregon Inlet, Swansboro, Wanchese, Wilmington, and Wrightsville Beach.

The fishing industry is quite prominent in Wanchese; 20 percent of the community's workers were employed in agriculture, forestry and fishing in 1990. Other communities with considerable employment in these industries are Harkers Island (8 percent of the working population) and Hatteras (6 percent). Swansboro, Wrightsville Beach, and Wilmington have the lowest percent of workers in these industries, ranging from 1-2 percent of their employed population. Demographic data were not readily available for two North Carolina communities - Manns Harbor and Oregon Inlet. While Manns Harbor is considered a populated place, Oregon Inlet is identified as a number of geographic landmarks, and is the location of the Oregon Inlet Fishing Center.

7.2.3.2 North Carolina Community Profiles - Hatteras

Hatteras Village is a rural community at the southern end of Hatteras Island on North Carolina's Outer Banks. Hatteras Island is a classic, dynamic barrier island, bordered by the Atlantic on the east and Pamlico Sound on the west. Noted for its vast marine resources, the area is also an important point of departure for marine vessels.

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 2,675 in Hatteras Township, consisting of Avon, Buxton, Frisco and Hatteras; 52 percent male, 48 percent female.

Racial and Ethnic Composition: 99 percent Caucasian; less than one percent each of Black and American Indian races. The ancestry of the community is of predominantly European descent.

Age Structure: 45 percent aged 15 to 44; 19 percent under age 15; 36 percent above age 44.

Marital Status: 66 percent married; 21 percent never-married, 7 percent are divorced; and 6 percent widowed. Of those widowed, 86 percent are female and 14 percent are male. Of those divorced, 75 percent are male and 25 percent are female.

Household Composition: 1,078 households; average of 2.38 persons per household.

Educational Trends: 74.4 percent of the population 25 and older graduated from high school.

Fishing Organizations: Memberships include TBF and CCA.

Economic Characteristics

Since World War II, the economy of the Hatteras community has depended on charterboat and commercial fishing; tourism is also an important economic activity. In the spring, weekend and holiday travelers cause an increase in revenue. June through August, family vacations provide tourist income. The per capita income in 1989 was \$12,796, very close to the state average of \$12,885. Compared to the community at large, only a few commercial fishermen have had considerable financial success; business owners in the fishing industry, such as marina and restaurant owners, have been relatively financially successful. Unemployment rate is 4.2 percent of the labor force. In the civilian employed population, 58 percent are men and 42 percent are women. Thirty percent of the population over 16 do not participate in the labor force (Census, 1990). Tourism and recreation are major employment industries in Hatteras. Of the employed labor force, 57 percent of employees are private for profit wage and salary workers, 21 percent work for the government, 16 percent are self-employed, and nearly 3 percent are in the armed forces. Commercial fishing is also a major occupation on Hatteras Island, where there are approximately 500 to 600 part and full time commercial fishermen; recreational fishing is a source of seasonal employment. Agriculture, forestry, and fisheries jobs are held by 6 percent of those employed in Hatteras.

Fisheries Profile

Hatteras Village is dependent on fishing. While non-fishing tourists, especially windsurfers, are attracted to beaches elsewhere on the island, Hatteras Village's own beaches are less appealing. Tourists come to Hatteras because they want to fish. The recreational and charterboat fishing industry's history goes back to the 1930s. A charterboat captain related that newcomers are amazed at how good the fishing is. Ditton *et al.* (1998) did a survey of both private and charterboat anglers in Hatteras in the winter of 1997. Their results support the captain's assertion. They found that of 644 anglers, 46 percent agreed with the statement "I caught more fish than I expected on this trip" and 42 percent agreed that they "could not image a better fishing

trip." The recreational bluefin tuna season occurs in the winter. In early spring, fishermen can target offshore yellowfin tuna, dolphin, and wahoo. Marlin and sailfish fishing occurs in the summer.

Make-up charters, where marinas organize the parties, are becoming more and more common. A captain estimated that his marina did 140 make-up charters in the past year. About half of fishing parties are all male and the other half are families, some of which participate in other tourist activities while the others fish. The majority of the charterboat customers want to fish offshore. Customers are often willing to accept catch limits imposed by the captain. Meat, however, is still an important motivation for all anglers except for billfish anglers (Wilson *et al.*, 1998).

The Hatteras Village Civic Association holds three tournaments a year. The biggest in the area is the Big Rock tournament the first week in June. The others are held in May and in the fall. Recreational billfishing in Hatteras is described by respondents as totally catch and release, with the exception of large tournaments. The biggest tournament directly affecting Hatteras is the Big Rock in Morehead City. Many boats in this tournament fish out of Hatteras. The tournament blue marlin minimum size is 110 inches. Proponents of catch and release are in favor of either no landings or of a large minimum size.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in Hatteras, North Carolina related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. One possible exception is most offshore charters in this community probably have a tuna permit because yellowfin and bluefin tuna is a commonly targeted species for anglers in the Hatteras area. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Hatteras and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.2.4 Puerto Rico Community Profiles

7.2.4.1 Puerto Rico Territory Profile

Demographic and Economic Characteristics (U.S. Bureau of the Census, 1990)

Population : 3,522,037; approximately 48 percent male and 52 percent female.

Nearly 98 percent born on the island or in the United States, with the remaining population split between naturalized citizens and non-U.S. citizens.

Education : 53 percent of adult residents graduated high school. Approximately 10 percent of the adult population cannot read or write.

Employment: Of the population aged 16 and older, 47.1 percent are in the civilian labor force. The unemployment rate is approximately 20 percent.

Households, Income and Poverty: In Puerto Rico, there are 1,057,357 households, of which 84.2 percent are family households. Twenty-three percent of the family households have female householders; the poverty rate among them is 69.9 percent. The general poverty rate for the island is approximately half of the households (50.9 percent). Thirty-one percent of the households are receiving some kind of public assistance; the average public assistance income is \$2,115. Sixty-three percent receive salary or wage income; average personal wage is \$11,094. The median household annual income is \$8,895 and the average household income is \$15,509.

Fishery Characteristics

In general terms, the fishing industry of Puerto Rico is made up of private clubs for the upper and middle class and small, and poor artisanal fishing communities whose physical facilities are provided by the state (villages). There are approximately 2,500 licensed artisanal fishermen who are required to report their landings to the Office of Natural Resources' Fisheries Laboratory. However, interviews and informal conversation with artisanal fishermen suggest that the reported and actual landings differ widely (Wilson *et al.*, 1998). At the local level, there are artisanal fishermen's associations (villages) and recreational fishermen's membership clubs.

The fishing industry is not a prominent economic activity in Puerto Rico and variations in fishing incomes have little impact on the island's economy. Most of the recreational fishing activity centers around the capital city of San Juan. Artisanal fishing communities are found throughout the island. These communities are extremely poor and will likely be the communities most affected by changes in regulations. The extremely deep inshore waters off these areas make billfish and other highly migratory species accessible to the artisanal fishery.

7.2.4.2 Puerto Rico Community Profiles - Arecibo

Demographic Profile (U.S. Bureau of the Census, 1990)

Population: 93,385; approximately 99 percent born in Puerto Rico or in the United States; the majority of the population is classified as Hispanic or Latino. Naturalized citizens and non-citizens each make up less than 1 percent of the population of Arecibo, but their ethnicity is unknown. According to interviews with local government officials, the vast majority of immigrants in Arecibo are from the Dominican Republic; however, there is no way to confirm that information due to waves of illegal immigration.

Households, Income and Poverty: 24,333 households. The median household income is \$7,520. Thirty-two percent of the households are receiving some kind of public assistance; the average public assistance income is \$1,939. Fifty-eight percent of the households receive salary or wage income; the average salary or wage income is \$13,405. Seventy-three percent of these are below the poverty level. The general poverty rate is 57 percent.

Employment: Unemployment rate is 23 percent. Of the population age 16 and older, 43.9 percent are in the civilian labor force. In 1990, the highest employing industries for men and women were *manufacturing* and *services*.

Fisheries Profile

The Arecibo Yacht Club is a private club created by and for the local recreational fishermen. The members of the club formed the Association of Sport Fishing of Arecibo and its facilities. Members of the Arecibo Yacht Club organize marlin and inshore fishing tournaments. According to local government officials, the municipality does not get any economic benefit from those tournaments because all the profits go directly to the Club, which is a private business. The tournament does not affect the economy of the region even indirectly by promoting related business because the participants are mainly the same local fishermen. The marlin tournament is held in May. However, according to the commodore of the club, the tournaments are not always lucrative, even for the club (Wilson *et al.*, 1998). The club has approximately 253 members, and among them, 82 are boat owners. The size of the vessels fluctuates between 18 and 50 feet. The larger boats, measuring 33 feet or more, have a crew consisting of a captain and a mate. The crew is in charge of the maintenance of the boats while in the marina and directing the fishing journeys. The facilities of the club and marina were constructed with private funds. It is a very exclusive place for the middle-upper class of Arecibo, although the commodore reports that in the club's facilities there is an area available for the boats of the poor artisanal fishermen.

Among the members are part-time artisanal fishermen but most of them are recreational fishermen. However, usually they come out on the weekends and use the money they obtain from the catch to pay for the trip expenses. The artisanal fishermen catch mostly red snapper and grouper, by bottom fishing; this kind of fishing is done with a line that goes to the bottom of the sea, mostly in rocky areas. The rest of the fishermen mainly target dolphin and tuna. To catch

these species, they use a hand line, or a single cord with one angle. May through October is the season of marlin, white needle, blue needle and *EEZ Vella* at 7-10 miles from the shore.

Community Impacts of the Atlantic Billfish FMP Amendment

The anticipated community impacts in the town of Arecibo, Puerto Rico related to the Atlantic billfish FMP amendment are likely to be similar to those described for Islamorada, Florida. The mandatory logbooks and permit for charterboat may have a greater impact in Puerto Rico than in billfish communities on the continental United States. The final actions of the Atlantic billfish FMP amendment were selected to minimize economic impacts on billfish communities like Arecibo and to ensure sustained participation, while meeting the overall objectives of the FMP amendment.

7.3 Summary of Impact Assessment

The preceding discussion provided a community-specific analysis of social impacts, but as noted above, these areas are representative of a much larger number of Atlantic billfish communities within the United States and U.S. Territories. The following table summarizes anticipated social impacts resulting from the implementation of the Atlantic billfish FMP amendment on a broader-scale, based on the comments and responses received during the open comment period for the draft FMP amendment and proposed rule (October 9, 1998 to March 12, 1999). Public hearings for the proposed rule to implement the draft Atlantic billfish FMP amendment were held in, or near, the locations utilized in the community analysis in Section 7.2, including Panama City, FL (including Destin and Ft. Walton), Key West, FL, Houma, LA, Madeira Beach, FL, Nags Head, NC. Other hearings were held in locations not included in the community profiles, where large numbers of Atlantic billfish recreational anglers attended to provide public comments, including St. Thomas, USVI, San Juan, PR, Charleston, SC, St. Augustine, FL, Miami, FL, New Orleans, LA, Port Aransas, TX, Fort Pierce, FL, Orange Beach, AL (including Pensacola, FL), Montauk, NY, Toms River, NJ, Barnegat Light, NJ, and Ocean City, MD. Comments received from these meetings, as well as written responses from other billfish communities, constituent groups, individuals, fishing clubs, environmental groups, fishery management councils, state and local agencies, tackle and boat business, and others are included in Chapter 6. A more complete discussion is provided under each alternative in Chapter 3.

Action	Social Impacts
Possession Restrictions: - Set minimum size limits for Atlantic blue marlin at 99 inches LJFL, 66 inches LJFL for white marlin and 63 inches LJFL for west Atlantic sailfish. - Prohibit retention of longbill spearfish. - Status Quo on commercial possession and retention restrictions. - Allow removal of hook from recreational and commercially caught fish.	The increase in minimum size limits was generally well supported by the Billfish AP, most recreational billfish anglers, constituent groups, billfish organizations and other components of billfish communities; maintenance of current commercial prohibitions received similar support. Prohibiting retention of longbill spearfish had mixed support, but considering the conservation-orientation of most billfish communities, requiring the release of spearfish will likely be accepted by most anglers as a precautionary management measure. Allowing an alternative means to release fish will allow commercial and recreational anglers to take a proactive role in precautionary measures to reduce release mortality. Alternative methods to release a hooked billfish will be incorporated into the Outreach Programs (Section 3.8). NMFS does not anticipate negative social impacts resulting from any of these measures.

<p>Bycatch</p> <ul style="list-style-type: none"> - Establish a catch-and-release fishery management program. - Establish an Atlantic Billfish Bycatch Reduction Strategy (using management tools available in the HMS FMP). 	<p>The catch-and-release fishery management plan for the recreational Atlantic billfish fishery will have few social impacts and will likely receive wide-spread support from billfish communities. The FMP amendment also notes that HMS FMP will be the primary tool for designing, analyzing and implementing management measures to control bycatch in association with all HMS commercial fisheries, including Atlantic billfish caught on pelagic longline gear. In that regard the FMP amendment provides an Atlantic billfish bycatch reduction strategy consisting of management measures in the HMS FMP, including: preparation of a proposed rule extended time-area closure for more effective bycatch reduction (requires additional public comment); limited access; reduced quotas; outreach programs; gear restrictions; and buy-back programs. The social impacts of the six components of the bycatch program are discussed in the HMS FMP.</p>
<p>Monitoring, Permitting and Reporting</p> <ul style="list-style-type: none"> -Require vessel permits and logbooks (if selected to report) for charterboat targeting Atlantic HMS. -Implement voluntary observers. onboard charterboat vessels. -Implement tournament notification requirements. -Institute a June 1 to May 31 fishing year. - Outreach programs for commercial and recreational Atlantic billfish anglers. 	<p>Charterboat permit and logbooks were generally supported by public comments, and will likely have only a small social and economic impact relative to cost in terms of a fee for the permit and time for completing logbooks. Many negative comments were received in regard to the proposed mandatory observer program and associated social and economic impacts. The FMP amendment, in an attempt to minimize these impacts, implements a voluntary observer program, as suggested by a number of commenters. Public comment in response to the proposed rule and an interim rule implementing tournament notification requirements indicated only minimal dissatisfaction or negative social impact with the notification requirement. As part of the outreach program, tournament operators will be consulted on improving registration and reporting mechanisms. Establishing a June to May fishing year received comments voicing concern that any potential fishery closures or other management changes would unfairly impact fishing (particularly tournaments) in March to May because these tournaments could potentially not be allowed to land any fish. It is anticipated that outreach programs will be well received by the public as evidenced by the strong support of this alternative by the Billfish AP.</p>
<p>Extension of the Management Unit and Management Authority</p> <ul style="list-style-type: none"> -Extend management unit for Atlantic blue and white marlin to entire Atlantic Ocean and implement regulatory actions for all Atlantic marlin under both Magnuson-Stevens Act and ATCA. 	<p>Consistent regulations throughout the range of the species will initially receive a negative reaction, particularly for anglers using their U.S.-flagged vessels in foreign waters (e.g., Bahamas), where they would have to adhere to potentially more restrictive management measures than those of by local governments. This could potentially negatively impact recreational satisfaction and reduce U.S. angler participation in these areas. However, this measure is needed to comply with NS2 and NS3 to manage a stock throughout its range, as based on the best available science. This measure will also prohibit U.S. commercial landings of Atlantic marlin below 5°, where Atlantic billfish can now be legally caught, retained and sold outside the U.S. EEZ. This extension of management may negatively impact the few commercial enterprises operating in these areas; however, marlin makeup only a small portion of their catch (generally less than 1%) that targets tuna and swordfish.</p>

7.4 Fishing Organizations

There is an array of associations for fishermen, most often based on gear type. Most of these organizations have a designated lobbyist in management fora. The organizations with higher membership are more apt to have paid staff who can represent them at meetings, and hearings. In developing the Billfish AP, NMFS sought to appoint not just representatives for these groups, but also representatives of other sectors of the fishing industry, including tackle distributors, state management agencies, and other representatives of Atlantic billfish communities.

It is commonly felt by active fishermen that they are not well represented in the HMS management process. The number of meetings and the far-reaching aspects of Atlantic billfish fisheries, however, render it impossible for many fishermen to attend meetings. HMS worked with fishing organizations and fishermen to schedule meetings at times and in places that are conducive to attracting large crowds. The 27 public hearings held on the proposed rule for the HMS FMP and Atlantic billfish FMP amendment and the large attendance at most meetings indicate the impact of these mutual efforts. The following lists specific Atlantic billfish organizations; the HMS FMP provides a more comprehensive list of marine-oriented fishing clubs that target tuna and sharks, as well as Atlantic billfish. These lists are not exhaustive, but represent organizations that commonly work with NMFS HMS Division, or those commenting on the draft FMP amendment. Members of the Billfish AP are listed in Appendix A. To be placed on the HMS fax network, please contact Sarah McLaughlin in the Highly Migratory Species Management Division at (978) 281-9208.

American Sportfishing Association
American Fishing Tackle Co.
Atlanta Salt Water Sportsman's Club
Atlantic Game Fish Foundation, Inc.
Bahama Billfish Championship
Bahama Billfish Club
Baton Rouge Big Game Fishing Club
Beach Haven Marlin and Tuna Club
Big Rock Blue Marlin Tournament
Club Nautico de San Juan
Coastal Conservation Association
Corpus Christi Big Game Fishing Club
Destin Charterboat Association
Fort Pierce Sportfishing Club
Ft. Walton Beach Sailfish Club
Freeport Tuna Club
International Game Fish Association
International Marine Sportsmen Club
International Women's Fishing Association
Jersey Coast Angler's Association
Key West Charterboat Association
Manasquan Fishing Club
Maryland Saltwater Sportsmen's Association, Inc.

Matecumbe Anglers
Miami Sportfishing Club
Mid-Atlantic \$500,000 Marlin and Tuna Tournament
Mississippi Big Game Fishing Club
Mississippi Gulf Coast Billfish Classic
Mobile Big Game Fishing Club
Montauk Boatmen and Captains Association
National Fishing Association
New Jersey Fishing Tackle Trade Association
New Jersey State Federation of Sportsmen Clubs
New Orleans Big Game Fishing Club
New Orleans International Billfish Tournament
New York Fishing Tackle Trade Association
Newark Bait and Fly Casting Club
Northeast Florida Marlin Association
North Shore Community Tuna Association
Ocean City Marlin and Tuna Club
Orange Beach Charter Fishing Association
Orange Beach Fishing Association
Palm Beach County Fishing Foundation
Pensacola Big Game Fishing Association
Pensacola Big Game Fishing Club
Recreational Fishing Alliance
South Jersey Marina
South Florida Fishing Club
Sport fishermen of Broward
Stuart Sailfish Club
The Billfish Foundation
Texas Billfish Association
Texas International Fishing Tournament, Inc.
United Boatmen
Virgin Island Game and Fish Club
West Palm Beach Fishing Club
White Marlin Open

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